

Appl. No. 10/807,210  
Amtd. Dated Feb. 28, 2006  
Reply to Office Action of Nov. 29, 2005

**Remarks**

**Claim Objections**

Applicant has canceled claims 5 and 9 in response to the objection.

**Claim Rejections under 35 U.S.C. 103**

Claims 1-3, 5-7, 9-13 & 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US 4,544,571), in view of Marutsuka (US Publication. No. 2002/0071934 A1) and Motoki et al (US 5,462,771), as previously discussed in sections 5 & 6 of the Office action mailed 4/12/2005.

In response to the rejection, applicants now traverse as follows:

Claim 1 recites “[a] method for manufacturing an EMI-shielding (electromagnetic interference-shielding) assembly having a substrate, comprising the steps of: (a) providing oxygen plasma to clean the substrate; (b) ion plating the cleaned substrate with a layer of nickel or phosphorus nickel to form an adhesion layer; (c) ion plating the plated substrate with a metal shielding layer; and (d) ion plating the plated substrate with a corrosion-resistant layer.

Claim 10 recites “[a] method for manufacturing an EMI-shielding (electromagnetic interference-shielding) assembly having a substrate, comprising the steps of: (a) cleaning the substrate; (b) ion plating the cleaned substrate with an adhesion layer made of nickel or phosphorus nickel; and (c) ion plating the plated substrate with a shielding layer made of a second metal material.

In contrast, as shown in Fig. 2 and understood by applicant, Miller discloses a method of manufacturing an EMI/RFI shielding panel comprising “a step of vapor plating active surface with chromium or

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**stainless steel to provide adhesive layer 11.” Miller: abstract; col. 1, lines 45-54; col. 2, lines 32 & 53-65; col. 3, lines 1-25 & 50-56 (emphasis added).** Therefore, Miller does not disclose or teach a method for manufacturing an electromagnetic interference shielding assembly having a substrate that comprises a step of “**ion plating the cleaned substrate with a layer of nickel or phosphorus nickel to form an adhesion layer.”**

Furthermore, as indicated by Examiner, Marutsuka explicitly suggest Cu between corrosion resistant metals, such as chromium, nickel, etc, for use as the metallic shielding layer. However, Miller states that most shielding is formed by applying relatively thick coats of nickel-acrylic paints over an appropriate substrate. Further, Miller expressly indicates that a primary disadvantage of the nickel-acrylic coatings is that the deposition thickness depends on the skill of the individual spray operator and quality control can be a problem. In other words, vapor plating a chromium or stainless adhesive layer of Miller is to overcome disadvantage of nickel-acrylic coatings. See Miller: col. 1, lines 11-34. That is, Miller teaches away from the step of ion plating the cleaned substrate with a layer of **nickel or phosphorus nickel to form an adhesion layer.** A person of ordinary skill, upon reading Miller, would be discouraged from following the use of nickel as a corrosion resistant substance, even though nickel is set out in the Marutsuka. Instead, a person of ordinary skill would be led in a direction divergent from the path that was taken by the applicant of the present application. That is, even if one of ordinary skill in the art were motivated to modify Miller in view of the teachings of Marutsuka, they would not be motivated to obtain the presently claimed features of ion plating the cleaned substrate with a layer of **nickel or phosphorus nickel to form an adhesion layer.** Thus, the combination of references does not

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make the claimed invention obvious. On the contrary, the combination of references makes the claimed invention more unobvious than may otherwise be the case. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be led in a direction divergent from the path that was taken by the applicant." Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999).

Moreover, as understood by applicant, Motoki et al. discloses a method of manufacturing electromagnetic wave shielding plastic molding, which comprises the step of providing a conductive layer comprising at least a metal selected from the group consisting of Al, Cu, Ni, Cr and Sn or an alloy thereof, by way of high-frequency excitation by plasma on the surface of a plastic molding without any previous washing and without providing a primer coating layer (col. 2, lines 44-64). Therefore, Motoki et al. does not disclose or teach a method for manufacturing an electromagnetic interference shielding assembly having a substrate that comprises a step of "ion plating the cleaned substrate with a layer of nickel or phosphorus nickel to form an adhesion layer." Accordingly, Miller in view of Marutsuka and Motoki et al. does not disclose or teach a method for manufacturing an electromagnetic interference shielding assembly having a substrate that comprises a step of "ion plating the cleaned substrate with a layer of nickel or phosphorus nickel to form an adhesion layer."

In summary, for at least the foregoing reasons, any combination of Miller, Marutsuka, and Motoki et al. would not have led one of ordinary skill in the art to provide the invention of claims 1 or 10.

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Thus, independent claims 1 and 10 are submitted to be unobvious and patentable under 35 U.S.C. 103(a) over the cited references.

Accordingly, claims 2-3 6-7, and 22-24, all of which depend from claim 1, are also submitted to be patentable.

Accordingly, claims 11-13, which depend from claim 10, are also submitted to be patentable.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US 4,544,571), in view of Marutsuka (US Publication No. 2002/0071934 A1) and Motoki et al (US 5,462,771) as applied to claims 1-3, 5-7, 9-13 & 22-24, and further in view of Gabower (US 6,570,085).

In response to the rejection, applicants now traverse as follows:

Firstly, Gabower does not disclose or teach that oxygen gas is introduced into a vacuum chamber at a volumetric flow rate of between 200 and 2000 standard cubic centimeters per minute (SCCM), as recited in claim 4. Further, Gabower does not suggest that introducing oxygen gas into the vacuum chamber at a volumetric flow rate of between 200 and 2000 standard cubic centimeters per minute (SCCM) can be arrived at by routine experimentation. Therefore, none of Miller, Motoki et al., Gabower, and Marutsuka, whether taken alone or in combination, teach or suggest that oxygen gas is introduced into the vacuum chamber at a volumetric flow rate of between 200 and 2000 standard cubic centimeters per minute (SCCM).

Moreover, the very fact that as many as four references are cited to support the combination rejection is, in addition to the above assertions, further probative of unobviousness.

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Further, in any event, claim 4 directly depends from independent claim 1, which is asserted to be patentable over Miller in view of Marutsuka and Motoki et al. under s.103 as detailed above.

In summary, for at least the above reasons, claim 4 is submitted to be unobvious and patentable under 35 U.S.C. 103(a) over Miller in view of Marutsuka and Motoki et al, and further in view of Gabower.

In view of the above claim amendments and remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,

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